United States Patent [19]

Lapeyre

[11] **Patent Number:** 4,891,777

[45] **Date of Patent:** Jan. 2, 1990

[54] **SINGLE HAND KEYBOARD ARRAYS PROVIDING ALPHANUMERIC CAPABILITIES FROM TWELVE KEYS**

[75] Inventor: James M. Lapeyre, New Orleans, La.

[73] Assignee: The Laitram Corporation, New Orleans, La.

[21] Appl. No.: 862,647

[22] Filed: May 13, 1986

Related U.S. Application Data

[63] Continuation of Ser. No. 528,975, Sep. 2, 1983, abandoned, which is a continuation-in-part of Ser. No. 493,613, May 11, 1983, abandoned.

[51] Int. Cl.⁴ G06F 3/02
[52] U.S. Cl. 364/706; 364/709.15; 364/709.16
[58] Field of Search .... 364/706, 704, 709.15, 364/704.16; 400/482, 485, 489, 100; 340/365 R; 178/17 C; 341/22

[56] **References Cited**

U.S. PATENT DOCUMENTS

1,590,998	6/1926	Balston	400/482
2,318,519	5/1943	Palanque	400/482
3,225,883	12/1965	Ayres	340/365 R
3,892,958	7/1975	Tung	364/709
3,967,273	6/1976	Knowlton	340/365 R
4,041,295	8/1977	Ido et al.	364/709
4,042,777	8/1977	Bequaert et al.	179/79
4,067,431	1/1978	Whitaker	340/365 R
4,202,038	5/1980	Peterson	364/709
4,272,826	6/1981	Deutsch	364/709
4,344,069	8/1982	Prame	340/365 S
4,360,892	11/1982	Endfield	178/17 C
4,400,593	8/1983	Kunz	340/365 R
4,412,210	10/1983	Washizuka et al.	364/709

FOREIGN PATENT DOCUMENTS

2924515	6/1979	Fed. Rep. of Germany .
490000	8/1938	United Kingdom .
511240	8/1939	United Kingdom .

OTHER PUBLICATIONS

Beausoleil et al., "Compact Keyboard", *IBM Tech. Disclosure Bulletin*, vol. 13, No. 11, Apr. 1971, p. 3574.

Primary Examiner—David H. Malzahn
Attorney, Agent, or Firm—Laurence R. Brown; Alfred J. Mangels

[57] **ABSTRACT**

A keyboard system has a keyboard geometric arrangement enriched in intersections of three keys achieved by offsetting or staggering adjacent keys. This provides a greater number of choices from a given number of keys actuable manually one, two or three at a time. The key layout permits touch typing with one hand where twelve keys provides fill alphanumeric capabilities. Finger positions conform with human hand structure and include raised ridges for identifying some of the fingerstroke key selection locations. Thus, accurate high speed typing with either hand is feasible in a telephone dial space frame. The keyboard communicates by an X by Y communication channel matrix or telephone system compatible tone signals with computers, telephones, teletypes and like utility devices. Program steps and function selection is afforded by a self-cataloged two (or more) keystroke sequence to reduce programming time and increase the number of selections possible per key. Thus, as few as four keys and four wires can afford fourteen manual selections by a single fingerstroke in a single live key mode.

25 Claims, 12 Drawing Sheets